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ABSTRACT

This reports on a public school system's implementation of a new selection process for classes for the gifted, which was designed to increase the pool of eligible children and to minimize the impact of biases of opportunity, language, and cultural saturation. This study compares the new mode of selecting gifted children (based upon parent nominations, teacher recommendations, achievement test scores, and review of candidates by a specially formed selection committee) with the former procedure which relied upon academic standing and standardized IQ tests. The following conclusions were reached: (1) the new process was successful in selecting a group of gifted children more representative of the community with respect to ethnic composition than that attained by means of the traditional process; (2) those children found by the selection committee to be most eligible for participation in the gifted program ranked higher with respect to the selection criteria than children only identified as potentially gifted; (3) those children selected by the new process did not differ from the children selected by the old process with respect to the criterion variables. Tables are included. (Author/WP)

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THE IMPLEMENTATION OF A CULTURALLY-FAIR PROCESS FOR THE IDENTIFICATION OF GIFTED CHILDREN IN FLINT, MICHIGAN: A FOLLOW-UP STUDY

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FOR THE

IDENTIFICATION OF GIFTED CHILDREN IN FLINT, MICHIGAN:

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An abbreviated version of this report was presented at the 1979 annual meeting of the American Educational Research Association under the title, *The Development of a Culturally Fair Model for the Early Identification and Selection of Gifted Children: A Follow-up Study.*

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EXECUTIVE SUMMARY

During the first part of the 1978-79 school year, the Flint Community Schools of Flint, Michigan, implemented a newly developed, two-stage process for the identification and selection of gifted children. The process followed a model developed jointly by Educational Testing Service and the Flint Community Schools. The model was designed to increase the pool of eligible children and to minimize the impact of biases of opportunity, language, and cultural saturation which mitigate against the selection of gifted children from less advantaged environments.

The identification and selection process involved two stages. The identification stage involved parent nominations, teacher recommendations, and achievement test scores. The second stage, the selection stage, involved the review of eligible candidates for the gifted program by a specially formed Selection Committee. As a result of the implementation of this two-stage process, a considerable amount of data became available for analysis. An inventory of available data suggested an ex post facto design for data analysis which would touch on three basic questions pertinent to the goals of the identification and selection process. These were:

1. How successful was the process in selecting a group of gifted children which was more representative of the Flint community than was attained by the previous selection process?

2. Were the children selected by the new process different with respect to the selection criteria from those children who were identified during stage 1 of the process but who were not selected as a result of stage 2?

3. What kinds of differences could be detected between the group of children selected for participation in the gifted program by means of the new process as compared to the children selected by means of the old process?

Data for three groups of children were available for analysis. Data were available for children who were selected for the gifted program by the new process, for children who were identified as potentially gifted but who were not selected for the gifted program during the second stage, and for children who were selected for the gifted program by means of the old process. Chi-squares and MANOVAs were conducted to compare various combinations of these three groups with respect to seven variables: 1) an overall indicator of giftedness supplied by a child's parents by means of the Parent Questionnaire, 2) Math score, 3) Reading score, and 4) scale scores from the Characteristics of Able Pupils teacher rating scale.

Data analyses resulted in the following conclusions:

1. The new process implemented by the Flint Community Schools was successful in selecting a group of gifted children which was more respresentative of the Flint community with respect to ethnic composition than was attained by the old process.

2. Those children who were found by the selection committee to be most eligible for participation in the gifted program did rank higher with respect to the selection criteria than children only identified as potentially gifted.

3. Those children selected by the new process did not differ from the children selected for the program by means of the old process with respect to the selection criteria.

Future research in this area needs to consider the identification of gifted children in conjunction with the program for which they are being elected. Greater emphasis needs to be placed on the application

of sound research design and measurement practice for investigating this dual process. The study reported herein represents a positive step in this direction.

I. INTRODUCTION

Background and history

During the first part of the 1978-79 school year, the Flint Community Schools of Flint, Michigan, implemented on a district wide basis, a newly developed process for the identification and selection of gifted children for an existing gifted program. This process represented a considerably more systematic identification and selection effort than that of the past. It was designed to increase the pool of eligible children and to minimize the impact of biases of opportunity, language, and cultural saturation factors which had mitigated against the selection of gifted children from less advantaged environments.

The Walker School in Flint has operated a full-time program for the academically gifted elementary school pupils since 1976. The program was designed to serve students comprising the top two percent of the student population relative to academic abilities. Until the development of the new process, a pupil was considered eligible for this program based primarily on his academic standing or intellectual ability as measured by means of standard IQ tests. Such a selection process, by virtue of the narrow definition of giftedness and reliance on IQ testing, resulted in a pool of gifted children which severely underrepresented the non-white student population of Flint. It was to rectify this situation that Educational Testing Service, under contract to the Flint Community Schools, assisted in the development of a new identification and selection process.[1]

[1] The Development of a Culturally Fair Model for the Early Identification and Selection of Gifted Children, T. Storlie, D. Bellis, J. Powills and P. Prapuolenis; Educational Testing Service, Midwest Regional Office, August, 1978.

The Identification and Selection Process

The identification and selection model defined as gifted children who exhibited superiority in one or more of the following areas: creativity, intellectual potential, learning ability, motivation, leadership and social/self awareness, and exceptional academic achievement. The model involved two stages. The goal of stage 1 was to identify a large pool of potentially gifted children. This identification pool was to be comprised of: 1) students scoring at least 2 years above grade level on the reading and/or math portions of the SRA Achievement tests; 2) students scoring at or above the 90th percentile within their school on an 11 item parent questionnaire which sought indications of giftedness in a child from his/her parents; and 3) students nominated as gifted in at least one of the above six areas by at least one faculty member in that child's school.

In order to further facilitate the final selection of children that would be eligible for participation in the gifted program, the teacher of each child identified as potentially gifted by stage 1 of the process was to complete a behavior checklist. For each child in the initial eligibility pool, a summary sheet was to be prepared which was to list the child's scores on any of the above mentioned measures. The sheets were to be prepared in such a manner as to allow for any identifying information to be detached so that the final selection process could be carried out in an anonymous fashion. This last step was to prepare the way for implementation of stage 2 of the model.

Stage 2 was to be carried out by a specially formed selection

committee, comprised of various community representatives. The selection committee was charged with evaluating each candidate and, by means of a sorting procedure, rating each candidate as to his/her eligibility for the gifted program, on a five point scale. By combining each committee member's rating of each candidate, a composite score was to be derived which would rank the candidates with respect to their judged eligibility for the gifted program. Given this final ranking of candidates, administrative decisions concerning specific admissions could be made, based on the number of positions available, as well as other important considerations.

In the event that the Committee felt that the information provided on the summary pages was insufficient for making a final decision about a particular child, the Committee was provided the option of referring such a candidate for further testing after which the Committee would reach a final decision.

Described in the preceding few paragraphs is the model for the identification and selection of gifted children as developed by Educational Testing Service and the Flint Community Schools. The process which was implemented district wide, however, differed somewhat from this original model.

The Flint Community schools found the teacher nomination process, whereby the faculty of a school was to formally convene for the purpose of systematically nominating children for the gifted program, too difficult to implement. Consequently, it was decided that a less formal nomination procedure which allowed a teacher to nominate a particular child at any time, would be more practical. Since no formal rating was obtained through this latter method, numerical

data were not available for later data analyses.

A second major departure from the original model concerned the process by which the Selection Committee was to arrive at a numerical ranking of each candidate. The selection Committee found this procedure too cumbersome and time consuming to implement and consequently opted for a simple "yes/no" decision for each candidate. The Committee still retained the option to request additional information about a particular candidate, should this have been necessary

Although the actual implementation of the identification and selection process departed from the original model in a few other minor instances, with the exception of the two mentioned above, the process was implemented as originally developed.

Purpose of study

The purpose of this study was to conduct a follow-up to the process described in the preceding section. It was felt that analyses of data generated by a district wide implementation of the identification and selection process would provide some indication of its effectiveness in meeting the goals for which it was developed.

An inventory of all available data suggested an ex post facto design for data analysis which would attempt to answer the following questions:

1. How successful was the new process in selecting a group of gifted children which was more representative of the Flint community than that attained by the previous selection procedures?

2. Given the nature of the decision process by which a child was finally selected as eligible for the gifted program (i.e., the holistic decision by members of the selection committee), were the selected children different with respect to selection criteria from those children who were identified as potentially gifted?

3. What kinds of differences could be detected between the group of children selected for participation in the gifted program by means of the new process as compared to the group children selected by means of the old process?

II. METHOD

Sample

Data for three distinct groups of children were available for analysis. Data were available for: 1) 158 children who were selected for participation in the gifted program by means of the new process, 2) 314 children who were identified as potentially gifted, but were not selected for participation in the program, and 3) 100 children who had been selected for the gifted program by means of the old process.

In order to provide for some comparison between groups 1 and 3 teacher ratings were obtained for a random sample of children currently enrolled in the gifted program. Of this sample, 19 children were in the gifted program by virtue of having been selected by the new process and 29 children were selected for the gifted program by means of the old selection process. The grade range for the total sample of 572 children was pre-K through grade 6, with approximately 75 percent of the sample comprised of 1st, 2nd, and 3rd graders.

The individual group sizes varied with each analysis as a function of the number of variables entered into the analyses (as shown in Tables 6, 8, 10, and 12).For example, although during the district wide implementation of the identification and selection process, 158 children were selected for the gifted program and 314 children were identified as potentially gifted, only 59 and 79 children from these groups respectively had the complete set of scores necessary to conduct the seven-variable MANOVA summarized on Table 6.

There are several reasons for this high incidence of missing data. First, any one of three nomination procedures would have rendered a child eligible for the final stage selection process. Obviously, not everyone was nominated by means of a sufficiently high Parent Questionnaire score, nor were all those children identified as potenially gifted through the stage 1 process rated by their teachers on the CAP rating scale. Finally, for most 1st and pre-1st grade children, as well as many for students new to the district, achievement scores were not available. The numbers of students for whom the various scores were available are summarized on Table 1.

Table 1

NUMBERS OF CHILDREN FOR WHOM SCORES WERE AVAILABLE FOR EACH OF THE VARIABLES BY GROUP

Group	Total	Parent Questionnaire	Creativity	Learning Ability	Motivation	Leadership/ Social Awareness	Math	Reading	New Creativity	New Learning Ability	New Motivation	New Leadership/ Social Awareness
Selected by the new process	158	86	134	134	134	134	112	112	19	19	19	19
Identified but not selected	314	138	262	262	262	262	197	197	-	-	-	-
Selected by the old process	100	-	-	-	-	-	44	44	29	29	29	29

Instruments

As described in the earlier sections, the identification and selection process relied on data from multiple sources. Parents, teachers, and academic records were all sources of information about potential candidates for the gifted program.

Parental input was sought by means of a district wide mailing of an 11 item multiple choice Parent Questionnaire (PQ)[2]. The PQ asks a child's parent to respond to items pertaining to the child's reading habits, innovativeness, use of long words, etc. A child scoring sufficiently high on the PQ became eligible for later consideration during stage 2 of the process. Based on a sample of 509 subjects, the alpha reliability coefficient for the PQ was .63.

All children who passed the stage 1 screening and were consequently included for stage 2 consideration, were rated by their teacher using the Characteristics of Able Pupils (CAP) rating scales. The CAP is a teacher checklist which yields four scores based on four scales: creativity, learning ability, motivation, and leadership/social-self awareness. The alpha reliabilities for each of these scales, based on the ratings of 442 students, are .87, .86, .83, and .86 respectively. The reliability for the total CAP, all scales combined, is .95.

Finally, a child was considered for stage 2 screening if he/she scored two or more years above grade level on the reading or math subtests of the SRA Achievement Tests (1978 ed.). As a measure of a child's reading or math ability, the child was assigned a score which was equivalent to the number of years above grade level that the child scored on the last district wide testing. Consequently, two scores indicative of a child's academic ability were available, one for math and one for reading.

[2]Complete copies of the CAP scales and the PQ are included in the final report cited in footnote #1.

A few comments concerning the above reported reliability coefficients for the CAP scales and the PQ may be appropriate here. Both instruments rely on external ratings of a child. In the first case, a teacher provided his perceptions of a given student with respect to a number of behavioral indicators, and in the second case, a parent provided his perceptions of his child. In both cases, these external perceptions became the score the child received on that scale or instrument. The resulting distributions of scores for a sample of children were therefore necessarily confounded. That is, the observed variability in the ratings, in each case, may have been attributable both to actual variability among students with respect to the trait in question, or they may have been attributable to variability among teachers or parents. The important implication here is that any ranking of students arrived at by means of these ratings can not be attributable to simply the differences among children on the traits of interest.

Due to the constraints imposed by the ex post facto nature of the study, the reliability coefficients reported for the two instruments did not take into account this possible source of error. They do not reflect the possibility that different teachers might rate the same child, and even the same behavior differently. In studies concerned with demonstrating the reliability of ratings, a common strategy is to have two or more raters conduct the necessary ratings. Subsequent analyses would permit the researcher to determine the extent of agreement between raters and thereby derive a reliability coefficient. This strategy, however, was not altogether feasible in the present situation.

There was no reason to expect that a child would necessarily exhibit the same behaviors with different teachers. Consequently, a lack of teacher agreement in a rating, could just as easily be attributed to low inter-rater agreement as it could be attributed to inconsistency in a child's behavior. Obviously, this state of affairs presents a problem with respect to any attempt to estimate the reliability of teacher or parent ratings. The reliabilities reported above, therefore, must be interpreted with caution.

Design and Analyses

One of the primary objectives of developing a new process for the identification and selection of gifted children was to achieve a more representative ethnic balance in the resulting pool of gifted children. In order to ascertain whether or not this objective was met, three chi-square analyses were conducted. The first analysis was conducted to compare the number of white and non-white children identified as potentially gifted to the number of children that would be expected on the basis of the actual Flint Community Schools student population distribution. The second chi-square analysis sought the same kind of comparison between students who were selected for participation in the gifted program and those only identified as potentially gifted during stage 1 of the process. Finally, a third chi-square analysis compared the ethnic distribution of children selected for the gifted program by means of the old identification and selection process to that of children selected by means of the new process. This provided an indication of the relative success of the new process in attaining a more representative pool of gifted children.

Although the chi-square analyses would provide a good indication of the representativeness of the pool of children identified as potentially gifted and those finally selected for the gifted program, as well as comparing the ethnic proportions attained by the new process to that attained by the old process, it was felt that additional analyses were necessary so that more specific statements could be made concerning the differences among the three subgroups. To this end, MANOVAs were conducted as follows:

MANOVA #1 - compared those children selected for the gifted program by means of the new process to those children who were only identified as potentially gifted. The dependent variable set consisted of the PQ score, the CAP scores, and the Math and Reading scores.

MANOVA #2 - compared those children selected for the gifted program by means of the new process to those children selected by means of the old process. The dependent variable set consisted of the new CAP scores obtained for both of these groups as well as the Math and Reading scores.

It will be remembered that PQ scores were not available for those children selected by means of the old process, which is why it did not appear as a dependent variable in Manova #2. Moreover, by entering all six variables into MANOVA #2, the sample size for each group shrank from an already small number to an N of 16 for one group and an N of 13 in the other. To see whether the patterns of differences between the two groups would remain as the sample sized increased when fewer dependent variables were entered, two more MANOVAs were conducted:

MANOVA #3 - compared those children selected for the gifted program by the new process to those selected by the old process. The dependent variable set consisted of the four new CAP scores.

MANOVA #4 - the same two groups were compared but the dcependent variable set consisted only of the Math and Reading scores.

Furthermore, because the sample sizes for each of the groups involved in MANOVAs 1 through 4 were considerably smaller than the actual sample sizes for these groups due to missing cases (for example, there was a total of 158 children that were selected for the gifted program by the new process, yet only 59 of those were included in MANOVA #1 because only 59 of the 158 had all seven scores for variables entered into this analysis), additional MANOVAs were conducted in an attempt to determine whether or not the results of MANOVAs 1 through 4 were spurious due to the small proportion of the actual samples involved. These analyses sought difference between those portions of groups compared in MANOVAs 1 through 4 with portions of the same groups for whom all data were not available. These pairs of subsamples were compared on the basis of those variable sets which were common to both subsamples. These MANOVAs (MANOVAs #5 through #13), together with summary statistics for the various groups involved, are presented in tabular form in the Appendix

If the results of MANOVAs 5 through 13 indicated no differences between the various subgroups described above, one might conclude, with some degree of confidence, that the samples involved in MANOVAs 1 through 4 were indeed fairly representative of the larger samples from which they were selected.

Perusal of these tables indicates that no significant differences were obtained, either at the univariate or the multivariate level, between the various subgroups. One may conclude, therefore, that although MANOVAs 1 through 4 compared only samples of the total groups of interest, these samples did not differ significantly from these total groups with respect to those variables for which scores were available.

III. RESULTS

Chi-square analyses comparing the proportions of white and non-white children identified and selected to that which would be expected if the process succeeded in fairly representing the Flint Community Schools enrollment for these children, are presented in Tables 2 and 3. It may be seen in Table 2 that stage 1 of the identification and selection process, the identification stage, resulted in a pool of potentially gifted children which did not differ significantly from the actual school population relative to the number of white and non-white children identified. Table 3, however, shows that the selection stage, stage 2, did not result in as representative a sample with respect to this ethnic variable, as did stage 1. Still, the new process resulted in a considerable improvement in the ethnic balance of those selected for the gifted program when compared to that attained by means of the old process. Table 4 compares the proportions attained by these two processes, where it may be seen that the distribtuion of white to non-white children selected by the new process is significantly more representative of the actual Flint Community School distribution, than that attained by means of the old process.

As originally specified, the model for the identification and selection of gifted children involved a two-stage process. Stage 1 aimed for the identification of a large pool of potentially gifted children. Stage 2 involved a special selection committee which considered each candidate's qualifications and made a holistic decision concerning the candidate's eligibility for the gifted program. If this were a valid process, one would expect that those students selected for the

Table 2

CHI-SQUARE COMPARISON OF THE NUMBER OF WHITE AND NON-WHITE CHILDREN COMPRISING THE 1ST STAGE ELIGIBILITY POOL

	Identified White Students		Identified Non-White Students		Row Total	
	N	%	N	%	N	%
Expected*	201	43	270	57	471	100
Observed	193	41	278	59	471	100

* Expected ditribution based on Flint Community Schools' enrollment figures.

$\chi^2 = .555$ (NS)

Table 3

CHI-SQUARE COMPARISON OF THE NUMBER OF WHITE AND NON-WHITE CHILDREN WHO WERE SELECTED FOR PARTICIPATION IN THE GIFTED PROGRAM BY MEANS OF THE NEW PROCESS

	Selected White Students		Selected Non-White Students		Row Total	
	N	%	N	%	N	%
Expected*	68	43	90	57	158	100
Observed	86	54	72	46	158	100

* Expected distribution based on Flint Community Schools' enrollment figures.

$\chi^2 = 8.36$
$p < .01$

Table 4

CHI-SQUARE COMPARISON OF THE NUMBER OF WHITE AND NON-WHITE CHILDREN SELECTED FOR THE GIFTED PROGRAM AS A FUNCTION OF THE OLD VS. NEW SELECTION PROCESS

	Selected White Students		Selected Non-White Students		Row Total	
	N	%	N	%	N	%
Old Process	71	74	25	26	96	100
New Process	86	54	72	46	158	100

$\chi^2 = 10.20$
$p < .01$

gifted program by means of stage 2 would show higher scores on the criterion variables than those students who were only identified as potentially gifted, i.e., those who were found by the selection committee to be not qualified for the gifted program.

The MANOVA conducted between these two groups, MANOVA #1, substantiated this expectation. Table 5 presents the means and standard deviations for the 2 groups involved in this analysis and Table 6 summarizes this analysis. It may be seen that, taking all 7 dependent variables into account, the 2 groups differ at a statistically significant level, the difference favoring the group of children selected for the gifted program. Furthermore, by examining the standardized discriminant function coefficients, one may see that Reading, Learning Ability, and the Parent Questionnaire scores, in that order, contributed most to the differences between the 2 groups.

Tables 7 through 12 present summary statistics and MANOVA tables for the three analyses conducted between the group of children selected for the gifted program by the new process and the group of children selected by the old process (MANOVAs 2, 3 and 4). It may be seen (Table 7) that although there are differences between the two groups on each of the variables, these were found to be statistically insignificant--taken either as a set or compared by means of simple ANOVAs (Table 5). Since MANOVA #2 involved very small sample sizes, it was felt that MANOVAs using smaller dependent variable sets, which would consequently involve larger Ns, might be informative. However, neither MANOVA #3, which involved only the CAP scores (Tables 9 and 10) nor MANOVA #4, which involved only the Math and Reading scores (Table 11

Table 5

SUMMARY STATISTICS FOR MANOVA #1 COMPARING CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN ONLY IDENTIFIED (GROUP B)

Dependent Variables		Group A N = 59	Group B N = 79
Parent Questionnaire	$\bar{X}$	34.627	31.848
	SD	3.366	4.521
Creativity	$\bar{X}$	52.169	40.633
	SD	21.629	25.587
Learning Ability	$\bar{X}$	62.881	42.076
	SD	24.583	26.637
Motivation	$\bar{X}$	58.102	43.443
	SD	22.353	26.803
Leadership/ Social Awareness	$\bar{X}$	63.814	53.785
	SD	22.865	29.269
Math	$\bar{X}$	2.459	2.035
	SD	.850	.904
Reading	$\bar{X}$	3.056	1.929
	SD	1.208	.992

Note: The maximum score for the Parent Questionnaire is 44. The maximum score for the Creativity, Learning Ability, Motivation, and Leadership/Social Awareness scales is 100. The Math and Reading scores represent years above grade level in that subject.

Table 6

MANOVA #1: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN ONLY IDENTIFIED (GROUP B)

Source of Variation	Multivariate F 7,130 [1]	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate F 1,136	SDFC [2]
Groups	8.607*	Parent Questionnaire	260.845	16.544	15.767*	-.429
		Creativity	4495.254	574.990	7.818*	.182
		Learning Ability	14620.170	664.660	21.996*	-.486
		Motivation	7257.522	625.095	11.610*	-.198
		Leadership/ Social Awar.	3396.984	714.282	4.756**	.084
		Math	6.069	.777	7.809*	-.036
		Reading	42.885	1.187	36.130*	-.644

*p < .01
**p < .05

1 Approximate F based on Wilks' Lamda criterion.

2 SDFC: Standardized Discriminant Function Coefficient

Table 7

SUMMARY STATISTICS FOR MANOVA #2 COMPARING CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Dependent Variables		Group A N=16	Group B N=13
Creativity	$\bar{X}$	48.438	39.308
	SD	24.427	24.178
Learning Ability	$\bar{X}$	43.562	53.462
	SD	22.730	37.856
Motivation	$\bar{X}$	56.375	57.385
		26.683	33.910
Leadership/ Social Awareness	$\bar{X}$	58.938	63.308
	SD	25.746	28.561
Math	$\bar{X}$	2.956	2.723
	SD	.697	1.099
Reading	$\bar{X}$	3.350	4.077
	SD	1.324	1.449

Note: Maximum score for the Creativity, Learning Ability, Motivation, and Leadership/Social Awareness scales is 100. The Math and Reading scores shown represent years above grade level in each of those subject areas.

Table 8

MANOVA #2: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Source of Variation	Multivariate $F_{6,22}$ [2]	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,24}$
Groups	.709	Creativity	847.500	591.285	1.433
		Learning Ability	702.832	923.969	.761
		Motivation	7.311	906.623	.008
		Leadership/ Social Awar.	291.052	730.804	.398
		Math	.390	.806	.484
		Reading	3.790	1.906	1.988

[1] Approximate F based on Wilks' Lamda criterion.

Table 9

SUMMARY STATISTICS FOR MANOVA #3 COMPARING CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Dependent Variables		Group A N=19	Group B N=29
Creativity	$\bar{X}$	47.526	56.966
	SD	25.116	25.400
Learning Ability	$\bar{X}$	41.474	53.483
	SD	21.554	31.200
Motivation	$\bar{X}$	50.105	60.069
	SD	28.682	29.171
Leadership/ Social Awareness	$\bar{X}$	59.632	62.379
	SD	23.773	25.607

Note: The maximum score for the Creativity, Learning Ability, Motivation, and Leadership/Social Awareness scales is 100.

Table 10

MANOVA #3: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Source of Variation	Multivariate[1] $F_{4,43}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,46}$
Groups	.752	Creativity	1022.777	639.559	1.599
		Learning Ability	1655.501	774.347	2.138
		Motivation	1139.398	839.862	1.357
		Leadership/ Social Awar.	86.668	620.288	.140

[1] Approximate F based on Wilks' Lamda criterion.

Table 11

SUMMARY STATISTICS FOR MANOVA #4 COMPARING CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Dependent Variables		Group A N=112	Group B N=44
Math	$\bar{X}$	2.523	2.777
	SD	.938	1.213
Reading	$\bar{X}$	3.109	3.673
	SD	1.230	1.571

Note: The Math and Reading scores shown above represent years above grade level.

Table 12

MANOVA #4: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS (GROUP A) AND CHILDREN SELECTED BY THE OLD PROCESS (GROUP B)

Source of Variance	Multivariate[1] $F_{2,153}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,154}$
Groups	2.904	Math	2.039	1.045	1.951
		Reading	10.041	1.780	5.640*

*$p < .05$

[1] Approximate F based on Wilks' Lamda criterion.

and 12), obtained any significant differences between these two groups. The two groups did, however differ at a statistically significant level (Table 12) on the Reading variable--those children selected by means of the old process having higher reading scores (Table 11).

IV. CONCLUSIONS

Several major conclusions concerning the new identification and selection process may be drawn from the results presented in the preceding section. Each of these conclusions pertains to the questions posed in the introductory section (Purpose of the Study).

1. The new process implemented by the Flint Community Schools was successful in selecting a group of gifted children which was more representative of the Flint Community with respect to ethnic composition than that attained by means of the traditional process. The success of the new process in meeting this goal may be due to several factors. The development and implementation of the new process involved much community participation--from start to finish--which served to greatly increase public awareness of issues pertaining to the identification and education of gifted children. The new process represented a much more systematized effort for the selection of gifted children than had occurred in the past. Multiple sources were relied upon in the nomination of children as potentially gifted. Parents were asked to respond to questionnaires about their children; teachers were systematically requested to complete checklist rating forms for children they considered as exceptional with respect to the selection criteria.

Another factor influencing the ethnic composition of the final pool of gifted children was the use of several criteria, not just one, for judging a particular child as gifted or not. By broadening the definition of giftedness to include more than high IQ, a factor which

has been seen as mitigating against identification of minority children due to cultural bias inherent in many IQ tests, the pool of children selected for the gifted program included children of varied talents and "gifts" and of various ethnic origins.

Another question which this study undertook to answer concerned differences between children who were identified as potentially gifted but who were not selected for the gifted program and those chldren who were selected for the gifted program by the Selection Committee. Certainly, a reasonable expectation for the identification and selection process as implemented was that children selected for participation in the gifted program rank higher with respect to the selection criteria than children who were only identified as potentially gifted. The results of the study have borne out this expectation.

2. Those children who were found by the Selection Committee to be most eligible for participation in the gifted program did rank higher with respect to the selection criteria than children only identified as potentially gifted. Had this not been the case, serious questions would have to be raised concerning the validity of the two-stage identification and selection model. The fact that the analysis showed the selected children to rank higher on the selection variables speaks well of the use of a selection committee, representative of community and school interests, for the type of decision-making wherein some elements of subjective input are desirable.

A third question which was of interest in this study concerned differences between children selected for the gifted program by the new process and those children selected by means of the old process. This particular issue was of major interest because those skeptical of

a selection process based on a broadened definition of giftedness which includes abilities or talents not directly linked to high IQ scores express the concern that gifted children selected on the basis of multiple and varied indicators of giftedness would be handicapped by lower academic skills at the start of their participation in a gifted program, when compared to their classmates who may have been selected by more traditional means which emphasize exceptional academic or intellectual skills. Results of the present study indicate that this is not the case.

3. Those children selected by the new process did not differ from the children selected for the gifted program by means of the old process with respect to the criterion variables. Results of our study suggest that broadening the definition of giftedness and using multiple selection criteria does not result in a lowering of standards such that less able children become selected for a gifted program.

As more and more public interest is directed toward special programs for gifted and talented children, and as federal and state funding for such programs increases, the programs and the process by which a particular child is deemed eligible for them, will likewise undergo increasing scrutiny. It is not unlikely that recipients of various funds intended for gifted and talented children will be required to document and demonstrate their eligibility for such funding, much the same as is required in the administration of compensatory education programs. This will require the application of defensible procedures for identifying and selecting gifted children that would be culturally

fair, valid, and capable of being implemented within the ordinary kinds of constraints that a typical school district must operate. In this regard, our project was a success.

Much work remains to be done in this area. Much could be learned from a closer look at existing programs for the gifted. It is becoming clear that the identification of gifted children cannot be considered as a separate issue from the specific program one has in mind for the education of these identified gifted children.

Models need to be developed which link the two processes of identification and education with clearly defined constructs, objectives, and goals. Designs need to be developed for investigating the interrelationships among the variables linking the two processes. Greater emphasis must be placed on application of sound measurement practice to the identification of gifted children and the evaluation of gifted programs. The study reported here represents a step in this general direction.

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SUMMARY STATISTICS FOR MANOVA #5 COMPARING SELECTED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND SELECTED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Dependent Variables		Group A N = 59	Group B N = 79
Creativity	$\bar{X}$	52.169	54.327
	SD	21.629	24.484
Learning Ability	$\bar{X}$	62.881	55.693
	SD	24.583	25.566
Motivation	$\bar{X}$	58.102	57.947
	SD	22.353	26.327
Leadership/ Social Awareness	$\bar{X}$	63.814	67.533
	SD	22.865	26.667

Table B

MANOVA #5: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN SELECTED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{4,129}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,132}$
Groups	2.398	Creativity	233.157	541.629	.430
		Learning Ability	1706.190	631.986	2.700
		Motivation	.794	608.115	.001
		Leadership/ Social Awareness	456.921	628.376	.727

[1] Approximate F based on Wilks' Lamda criterion

Table C

SUMMARY STATISTICS FOR MANOVA #6 COMPARING SELECTED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND SELECTED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

		Group A N= 59	Group B N= 53
Math	$\bar{X}$	2.459	2.594
	SD	.850	1.031
Reading	$\bar{X}$	3.056	3.168
	SD	1.208	1.264

Table D

MANOVA #6: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN SELECTED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND SELECTED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{2,109}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,110}$
Groups	.313	Math	.509	.883	.576
		Reading	.350	1.524	.230

1 Approximate F based on Wilks' Lambda criterion.

Table E

SUMMARY STATISTICS FOR MANOVA #7 COMPARING IDENTIFIED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND IDENTIFIED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Dependent Variables		Group A N= 79	Group B N=183
Creativity	$\bar{X}$	40.633	35.093
	SD	25.586	22.431
Learning Ability	$\bar{X}$	42.076	37.896
	SD	26.637	27.036
Motivation	$\bar{X}$	43.443	40.656
	SD	26.803	27.272
Leadership/ Social Awareness	$\bar{X}$	53.785	51.191
	SD	29.269	29.403

Table F

MANOVA #7: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN IDENTIFIED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND IDENTIFIED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{4,157}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,260}$
Groups	.810	Creativity	1693,553	548.599	3.087
		Learning Ability	964.012	724.510	1,331
		Motivation	428.691	736.134	.582
		Leadership/ Social Awareness	371.165	862.168	.430

[1] Approximate F based on Wilks' Lambda criterion.

Table G

SUMMARY STATISTICS FOR MANOVA #8 COMPARING IDENTIFIED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND IDENTIFIED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

		Group A N= 79	Group B N=118
Math	$\bar{X}$	2.035	1.934
	SD	.904	.805
Reading	$\bar{X}$	1.929	1.970
	SD	.992	.930

Table H

MANOVA #8: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN IDENTIFIED CHILDREN HAVING SCORES FOR ALL VARIABLES IN MANOVA #1 (GROUP A) AND IDENTIFIED CHILDREN MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{2,194}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,195}$
Groups	.655	Math	.488	.716	.681
		Reading	.080	.913	.088

1 Approximate F based on Wilks' Lambda criterion.

Table I

SUMMARY STATISTICS FOR MANOVA #9 COMPARING CHILDREN SELECTED BY THE OLD PROCESS, HAVING SCORES FOR ALL VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Dependent Variables		Group A N= 13	Group B N= 16
Creativity	$\bar{X}$	59.308	55.062
	SD	24.178	26.983
Learning Ability	$\bar{X}$	53.461	53.500
	SD	37.856	25.897
Motivation	$\bar{X}$	57.385	62.250
	SD	33.910	25.635
Leadership/ Social Awareness	$\bar{X}$	65.308	60.000
	SD	28.561	23.622

Table J

MANOVA #9: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE OLD PROCESS HAVING SCORES FOR VARIABLES IN MANOVA "2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{4,24}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,22}$
Groups	.481	Creativity	129.259	664.285	.194
		Learning Ability	.011	1009.527	.00001
		Motivation	169.785	87..151	.194
		Leadership/ Social Awareness	202.058	672.547	.300

[1]Approximate F based on Wilks' Lambda criterion.

Table K

SUMMARY STATISTICS FOR MANOVA #10 COMPARING CHILDREN SELECTED BY THE OLD PROCESS, HAVING SCORES FOR ALL VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

		Group A N= 13	Group B N= 31
Math	$\bar{X}$	2.723	2.800
	SD	1.099	1.274
Reading	$\bar{X}$	4.077	3.303
	SD	1.449	1.612

Table L

MANOVA #10: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE OLD PROCESS HAVING SCORES FOR VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{2,41}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,42}$
Groups	1.035	Math	.054	1.505	.036
		Reading	3.014	2.455	1.228

[1]Approximate F based on Wilks' Lambda criterion.

Table M

SUMMARY STATISTICS FOR MANOVA #11 COMPARING CHILDREN SELECTED BY THE NEW PROCESS HAVING SCORES FOR ALL VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Dependent Variables		Group A N= 13	Group B N= 68
Parent Questionnaire	$\bar{X}$	34.923	34.235
	SD	2.564	3.794
Creativity	$\bar{X}$	60.077	55.015
	SD	18.817	22.971
Learning Ability	$\bar{X}$	71.000	61.235
	SD	16.718	25.864
Motivation	$\bar{X}$	65.077	61.868
	SD	20.557	23.331
Leadership/ Social Awareness	$\bar{X}$	74.231	67.103
	SD	24.870	22.858

Table N

MANOVA #11: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS HAVING SCORES OR VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{5,75}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,79}$
Groups	.507	Parent Questionnaire	5.163	13.204	.391
		Creativity	279.672	501.290	.558
		Learning Ability	1040.604	609.800	1.706
		Motivation	112.404	525.832	.214
		Leadership/ Social Awareness	554.475	537.071	1.032

[1]Approximate F based on Wilks' Lambda criterion.

Table O

SUMMARY STATISTICS FOR MANOVA #12 COMPARING CHILDREN SELECTED BY THE NEW PROCESS HAVING SCORES FOR ALL VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Dependent Variables		Group A N= 15	Group B N=119
Creativity	$\bar{X}$	58.000	53.109
	SD	19.839	23.632
Learning Ability	$\bar{X}$	67.067	57.823
	SD	22.531	25.525
Motivation	$\bar{X}$	63.067	57.378
	SD	21.900	24.894
Leadership/ Social Awareness	$\bar{X}$	69.800	65.403
	SD	30.117	24.437

Table P

MANOVA #12: MULTIVARIATE AND UNIVARIATE ANALYSES OF VARIANCE BETWEEN CHILDREN SELECTED BY THE NEW PROCESS HAVING SCORES FOR VARIABLES IN MANOVA #2 (GROUP A) AND CHILDREN LIKEWISE SELECTED BUT MISSING ONE OR MORE OF THESE SCORES (GROUP B)

Source of Variation	Multivariate[1] $F_{4,129}$	Dependent Variable	MS (Between Groups)	MS (Within Groups)	Univariate $F_{1,132}$
Groups	.444	Creativity	318.629	540.982	.589
		Learning Ability	1138.078	636.290	1.789
		Motivation	431.054	604.855	.713
		Leadership/ Social Awareness	257.499	629.887	.409

[1]Approximate F based on Wilks Lambda creiterion.